



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,891	11/26/2003	Melissa D. Boyd	10970792-4	1137

7590 03/18/2005  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P. O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

HUFFMAN, JULIAN D

ART UNIT	PAPER NUMBER
----------	--------------

2853

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EX

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/723,891	BOYD ET AL.	
	Examiner	Art Unit	
	Julian D. Huffman	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-22, 26-31, 35-39, 41-43 and 45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-22, 26-31 and 35-37 is/are allowed.
- 6) ☒ Claim(s) 38, 39, 42, 43 and 45 is/are rejected.
- 7) ☒ Claim(s) 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 38, 39, 42, 43 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Cowger et al. (U.S. 5,565,900).

With regards to claim 38, Cowger et al. discloses a method of forming a fluid ejection assembly, the method comprising :

forming a platform (24) with a fluid inlet (32), a fluid outlet (34), a first plurality of fluid feed slots (fig. 2, element 81), a second plurality of fluid feed slots (fig. 2, element 81, column 4, lines 13-16, each assembly has a feed slot), and a fluid manifold therein (column 2, lines 20-32), including fluidically coupling each of the first plurality of fluid feed slots and the second plurality of fluid feed slots with the fluid inlet and the fluid outlet via the fluid manifold (manifold 101 is located between the fluid feed slots 81 and the fluid inlet 32 and outlet 34 and couples the two together as seen in fig. 4); and

mounting a plurality of fluid ejection devices (40) on the platform, including fluidically coupling each of the fluid ejection devices with one of at least one of the first plurality of fluid feed slots and at least one of the second plurality of fluid feed slots (column 4, lines 8-11),

wherein fluidically coupling each of the first plurality of fluid feed slots and the second plurality of fluid feed slots with the fluid inlet and the fluid outlet includes defining a plurality of fluid flow paths each between one of the first plurality of fluid feed slots and one of the second plurality of fluid feed slots with the fluid manifold (each fluid feed slot is coupled to the fluid inlet and outlet by fluid flow paths which form the fluid manifold, column 4, lines 8-11).

With regards to claim 39, Cowger et al. discloses that fluidically coupling each of the first plurality of fluid feed slots and the second plurality of fluid feed slots with the fluid inlet and the fluid outlet includes fluidically coupling the fluid inlet with one of the first plurality of fluid feed slots, fluidically coupling the one of the first plurality of fluid feed slots with one of the second plurality of fluid feed slots, and fluidically coupling the one of the second plurality of fluid feed slots with the fluid outlet (the fluid feed slots, fluid inlet, fluid outlet and manifold are all coupled together to permit fluid to flow from the inlet, to the manifold, to the printheads, out of the printheads, back through the manifold and through the outlet).

With regards to claim 42, Cowger discloses that fluidically coupling each of the fluid ejection devices with at least one of the first plurality of fluid feed slots and the second plurality of fluid feed slots includes fluidically coupling a fluid refill slot (83) of each of the fluid ejection devices with at least one of the first plurality of fluid feed slots and the second plurality of fluid feed slots (column 4, lines 8-11).

With regards to claim 43, Cowger discloses a method of circulating fluid between a reservoir and a plurality of fluid ejection devices each mounted on a platform, the method comprising:

communicating a fluid inlet (32) and a fluid outlet (34) of the platform with the reservoir (column 2, lines 28-29);

supplying a fluid manifold (column 2, lines 30-32) of the platform with fluid from the reservoir (column 2, lines 28-29) via the fluid inlet;

distributing the fluid to a first plurality of fluid feed slots and a second plurality of fluid feed slots of the platform via the fluid manifold (81, column 4, lines 14-16);

supplying a fluid refill slot (83) of each of the fluid ejection devices with a portion of the fluid via one of at least one of the first plurality of fluid feed slots and at least one of the second plurality of fluid feed slots (column 4, lines 8-16); and

returning a portion of the fluid to the reservoir via the fluid manifold and the fluid outlet (column 2, lines 32-35),

wherein distributing the fluid to the first plurality of fluid feed slots and the second plurality of fluid feed slots includes distributing the fluid between each of the first plurality of fluid feed slots and one of the second plurality of fluid feed slots via the fluid manifold (fluid manifold defines pathways through which fluid flows to feed slots, fig. 4).

With regards to claim 45, Cowger discloses that supplying the fluid refill slot of each of the fluid ejection devices includes feeding a fluid chamber of each of the fluid ejection devices with a portion of the fluid (fluid is fed into firing chamber for ejection through refill slot).

***Allowable Subject Matter***

3. Claims 20-22, 26-31, 35-37 are allowed.

The prior art of record does not disclose the third plurality of sub-channels as claimed in the combination.

Claim 41 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not disclose or suggest the layered manifold as claimed in the combination.

***Response to Arguments***

4. Applicant's arguments regarding claims 20-22, 26-31 and 35-37 are persuasive.

Applicant's argument regarding claims 38, 39, 42, 43 and 45 are not persuasive. Cowger teaches the limitations claimed as described in the rejection above. Cowger teaches recirculation of ink through the various printheads, therefore all of the channels, ports, outlets, etc. are in fluid communication with one another and fluid that is not ejected is capable of being circulated throughout the device.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 9:30a.m.-6:00p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JH

9 March 2005



**Thinh Nguyen**  
**Primary Examiner**  
**Technology Center 2800**